

Work Order ID 161916

Tuesday, May 23, 2017 11:02:19 AM

161916

Page 1

Item ID: D412-705-013

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Intake Plenum Access Panel

Start Date: 5/31/2017 Start Qty: 3.00

3

Cust Item ID:

Required Date: 6/2/2017 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **MAY 24 2017**

Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
IIN-D412-705	F

100

Document Control

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D412-705-013 CHG004

110

Pick Kit

110

0.00

Packaging

Memo

0.00

Packaging

120

QC4- 100% Inspect kits for completeness

120

0.00

QC

Memo

0.09

Quality Control

DAS 27 9-89
MAY 30 2017**DAS 26 9-89**
3x
DAS 28 9-89
MAY 30 2017**DAS 27 9-89**
MAY 30 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐									

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Page 2

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N900040100

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3

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: _____

0.00

130

Packaging

Packaging

Memo

0.00

Identify and pack for shipping as per PPP D412-705-013
Location : FG027

3X

DAS
27

MAY 31 2017

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.30

Quality Control

DAS
21
9-89

MAY 31 2017

DAS
21
9-89

MAY 31 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Picklist Print

Tuesday, May 23, 2017 11:02:18 AM

Page 1

Work Order ID: 161916

161916

Parent Item: D412-705-013

D412-705-013

Parent Item Name: Intake Plenum Access Panel

Start Date: 5/31/2017

Required Date: 6/2/2017

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:A New Issue 07-09-09 JLM Verified By:EC
IPP Rev:B ECN 1052 07-11-05 DD Verified by:EC IPP
Rev:C ECN 12-670 12.11.07 DD Verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3245-041

Manufactured

No

110

Each

4.0000

1

3

D3245-041

Access Panel Assembly LH

**

Location

Loc Qty

Loc Code

ST488

4

160494

4

MAY 30 2017

D3245-042

Manufactured

No

110

Each

4.0000

1

3

D3245-042

Access Panel Assembly RH

**

Location

Loc Qty

Loc Code

ST488

4

160495

4

MAY 30 2017

D3245-043

Manufactured

No

110

Each

7.0000

2

6

D3245-043

Door Assembly

**

Location

Loc Qty

Loc Code

ST488

7

158360

7

MAY 30 2017

D3245-11

Manufactured

No

110

Each

7.0000

2

6

D3245-11

Gasket 9.01

**

Location

Loc Qty

Loc Code

ST027

7

156234

3

158565

4

MAY 30 2017

DAS 26 9-89
DAS 28 9-89

DAS 26 9-89
DAS 28 9-89

DAS 26 9-89
DAS 28 9-89

DAS 26 9-89
DAS 28 9-89

DAS 27 9-89

DAS 27 9-89

DAS 27 9-89

DAS 27 9-89

DAS 26 9-89
DAS 28 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause		FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____	

Picklist Print

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Page 2

Work Order ID: 161916

161916

Parent Item: D412-705-013

D412-705-013

Parent Item Name: Intake Plenum Access Panel

Start Date: 5/31/2017

Required Date: 6/2/2017

Start Qty: 3.00

Required Qty: 3.00

D3245-13 Manufactured No

110

Each

7.0000

2

6

D3245-13

Gasket 9.50

**

DAS AS
26 28
9-89 9-89

MAY 30 2017

Location

Loc Qty

Loc Code

ST028

7

156169

3

158559

4

110

Each

7.0000

2

6

**

DAS AS
26 28
9-89 89

MAY 30 2017

D3245-9

D3245-9

Gasket 8.35

Manufactured No

Location

Loc Qty

Loc Code

ST027

7

156301

3

158574

4

110

Each

1,712.000

16

48

**

DAS AS
26 28
9-89 89

MAY 30 2017

MS20427M3-3

MS20427M3-3

Rivet

Purchased No

Location

Loc Qty

Loc Code

GA

471

m134738

471

ST311

1241

m136741

1241

110

Each

103.0000

8

24

**

DAS AS
26 28
9-89 89

MAY 30 2017

MS21060-L3K

MS21060-L3K

Nut Plate

Purchased No

Location

Loc Qty

Loc Code

GA

27

m135297

27

ST300

76

m135948

26

m136835

50

Tuesday, May 23, 2017 11:02:18 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : ☐							

REFERENCE ONLY

5.0 PARTS LIST

Qty -011	Qty -013	Qty -015	Qty -017	Qty -019	Qty -021	Qty -023	Part Number	Description
X							D412-705-011	TWIN PAK E-Z ACCESS KIT
1	X						D412-705-013	INTAKE PLENUM ACCESS PANEL KIT
1		X					D412-705-015	DRIVESHAFT TUNNEL MODIFICATION KIT
1			X				D412-705-017	N1 GEARBOX ACCESS PANEL KIT
1				X			D412-705-019	C-BOX OIL COOLER LINE SUPPORT ACCESS KIT
1					X		D412-705-021	OIL PRESSURE TRANSMITTER ACCESS KIT
1						X	D412-705-023	OIL COOLER SUPPORT REMOVABLE LOWER PANEL KIT
	1						D3245-041	ACCESS PANEL ASSEMBLY, LH
	1						D3245-042	ACCESS PANEL ASSEMBLY, RH
	2						D3245-043	DOOR ASSEMBLY
	2						D3245-9	GASKET
	2						D3245-11	GASKET
	2						D3245-13	GASKET
			1				D3255-041	ACCESS PANEL ASSEMBLY, LH
			1				D3255-042	ACCESS PANEL ASSEMBLY, RH
		1					D3256-1	ACCESS PANEL
		1					D3256-3	GASKET
				1			D3259-041	ACCESS PANEL ASSEMBLY, LH
				1			D3259-042	ACCESS PANEL ASSEMBLY, RH
					1		D3307-041	ACCESS PANEL ASSEMBLY
						30	AN3-3A	BOLT
		22	30		6		AN3C3A	BOLT
		3					AN3C4A	BOLT
						30	AN960JD10	WASHER
	16	44	36		12		MS20427M3-3	* RIVET
						4	MS21051-L3K	NUT PLATE
	8	22	18		6		MS21060-L3K	NUT PLATE
						18	MS21069-L3K	NUT PLATE
		25	30		6		MS9321-09	WASHER

* Acceptable to substitute for MS20615M3-3 rivets. At installation, it is acceptable to use longer rivets if required.

Work Order ID 161916

161916

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N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Intake Plenum Access Panel

Start Date: 5/31/2017 Start Qty: 3.00

3

Cust Item ID:

Required Date: 6/2/2017 Req'd Qty: 3.00

3

Customer:

Reference:

Run

Start

NR1

Approvals:

Process Plan:

Date:

MAY 24 2017

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D412-705	F								
100	Document Control								
100	DOCUMENT CONTROL	0.00							
DC	Memo								
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D412-705-013	CHG004							
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.09							
Quality Control									

DAS

MAY 30 2017

CB

③

MAY 30 2017



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ontario
Canada K6A 1K7

Number: SH04-25

Issue No.: 1

Approval Date: April 21, 2004

Issue Date: April 21, 2004

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

BELL 212, 412, 412 CF, 412 EP

Canadian Type Certificate or Equivalent:

H-86

Description of Type Design Change:

TWIN PAK EASY ACCESS KITS

**Installation/Operating Data,
Required Equipment and Limitations:**

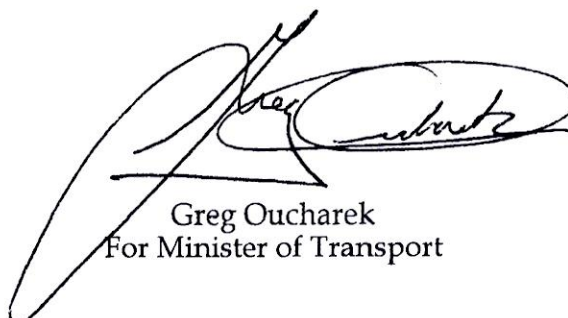
Installation of Twin Pak E-Z Access Kit to be in accordance with Transport Canada approved DART AEROSPACE LTD. Installation Instructions, IIN-D412-705, Revision A, dated February 20, 2004 or later Transport Canada approved revision.

Instructions for Continuing Airworthiness described in DART AEROSPACE LTD. document number ICA-D412-705, Initial Issue dated March 09, 2004 or later revision are required with this installation.

— End —



Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.



Greg Oucharek
For Minister of Transport